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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,674

01/18/2005

Helmut Weyl

10191/4008

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EXAMINER

DINH, BACH T

ART UNIT

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1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,674	Applicant(s) WEYL ET AL.	
	Examiner BACH T. DINH	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/18/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/18/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Summary

1. This is the initial Office Action based on the 10/521,674 application filed on 01/18/2005.
2. Preliminary amendment filed on 01/18/2005 has been entered and fully considered.
3. Claims 15-30 are currently pending and have been fully considered.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 15-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 7,191,640 in view of either Weyl (US 6,322,681) or Kojima (US 2001/00255222).

The only difference between the claims of current application and the claims of U.S.

Patent No. 7,191,640 is the spring element having a groove. Weyl (figures 1, 2A-2E) and Kojima (figure 6A) disclose the spring element that has grooves for holding two press-on bodies and a sensor element.

At the time of the invention, one with ordinary skill in the art would have been motivated to modify the spring element of U.S. Patent No. 7,191,640 with grooves as disclosed by Weyl and Kojima because such modification would enhance the elasticity and mechanical strength of the spring element (Weyl 3:54-62, Kojima [0048]).

7. Claims 15-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 and 18-20 of U.S. Patent No. 6,878,252 in view of either Weyl (US 6,322,681) or Kojima (US 2001/00255222).

The only difference between the claims of current application and the claims of U.S.

Patent No. 6,878,252 is the spring element having a groove. Weyl (figures 1, 2A-2E) and Kojima (figure 6A) disclose the spring element that has grooves for holding two press-on bodies and a sensor element.

At the time of the invention, one with ordinary skill in the art would have been motivated to modify the spring element of U.S. Patent No. 6,878,252 with grooves as disclosed by

Weyl and Kojima because such modification would enhance the elasticity and mechanical strength of the spring element (Weyl 3:54-62, Kojima [0048]).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 15, 17-27, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Weyl (US 6,322,681).

Addressing claim 15, Weyl discloses a gas sensor for determining a physical property of a measuring gas, comprising (figures 1-2):

A sensor element (3);

At least one press-on body (10 and 9);

A spring element (1) clamping the press-on body against the sensor element, the spring at least partially gripping around the press-on body (figure 1), the spring element having a groove (figures 2C-2E);

At least one contact surface situated on sensor element (interface between sensor element 3 and contact parts 21-24 in figure 1);

A contact piece (21-24) electrically connected to the contact surface, the contact piece being clamped in a friction-type manner between the contact surface and the at least one press-on body (3:13-15).

Addressing claim 17, the gas sensor of Weyl is for determining a concentration of a gas component of the measuring gas (1:5-12).

Addressing claim 18, the groove of Weyl is situated in an area of the spring element in which the spring element rests against the press on body (figures 1 and 2C-2E).

Addressing claim 19, the groove of Weyl is situated on a side of the spring element facing away from the press-on body (figures 2C-2E).

Addressing claim 20, the spring element 1 of Weyl grips around the press-on body (figure 1) and has a spring section resting against the press-on body (figures 2A-2E), in a clamped state the spring section being deformed in a direction which has an essential component parallel to a longitudinal axis of the sensor element (when the sensor element 3 is inserted into half-shells 9, 10 and the spring element 1 (3:52-62), the insertion force would deform part of the spring element in a direction that is parallel to the longitudinal axis of the sensor element).

Addressing claim 21, Weyl discloses in an area of the spring section, the spring element has a groove on its side facing away from the press-on body (figures 2C-2E).

Addressing claim 22, Weyl discloses the groove is situated centrally to the spring section (figures 2C-2E).

Addressing claim 23, Weyl discloses the groove has at least one of an oblong and a wedge-shaped design with a rounded end in the direction of the spring section (figures 2C-2E).

Addressing claim 24, the spring section of Weyl is a radially inward oriented, tongue-shaped area (figures 2C-2E).

Addressing claim 25, the spring element of Weyl has two spring sections substantially diametrically opposing one another figures (figures 2C-2E).

Addressing claim 26, the spring element is designed as a spring ring in the form of an annular disk having areas of different radial with (figures 2C and 2E).

Addressing claim 27, in an unclamped state, the spring element of Weyl is a flat annular disk (figures 2C-2E), and, in a clamped state, at least one spring section of the spring element is bent out of a plane of the annular disk (when the sensor element 3 is inserted into half-shells 9, 10 and the spring element 1, the insertion force would cause at least one spring section of the spring element to bent out of a plane of the annular disk).

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Addressing claim 29, Weyl discloses at least one press-on body includes at least two press-on bodies (9 and 10, figure 1), and wherein the spring element clamps the at least two press-on bodies, substantially diametrically opposing one another relative to the sensor element, against the sensor element (figure 1).

Addressing claim 30, Weyl discloses the spring element is in the form of a stamping piece (figures 2C-2E).

10. Claims 15-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (US 2001/0025522).

Addressing claim 15, Kojima discloses a gas sensor for determining a physical property of a measuring gas (figures 1, 3-6), comprising:

A sensor element (15);

At least one press-on body (221 or 222, figure 4);

A spring element (223) clamping the press-on body against the sensor element, the spring at least partially gripping around the press-on body (figure 6A), the spring element having a groove (figure 6A);

At least one contact surface (151) situated on the sensor element (figure 3); and

A contact piece (21) electrically connected to the contact surface, the contact piece being clamped in a friction-type manner between the contact surface and the at least one press-on body (figure 4).

Addressing claims 16 and 17, the gas sensor of Kojima is for determining a temperature and a concentration of a gas component of the measuring gas [0004].

Addressing claims 18 and 19, the groove of Kojima is situated in an area of the spring element in which the spring element rests against the press-on body and the groove is situated on a side of the spring element facing away from the press-on body (figure 6A).

Addressing claim 20, the spring element of Kojima grips around the press-on body and has a spring section resting against the press-on body (figure 6A), in a clamped state the spring section being deformed in a direction which has an essential component parallel to a longitudinal axis of the sensor element (when the sensor element 15 is inserted into the insulating spacers 221, 222 and spring plate 223, the insertion force would deform an essential component of the spring plate in a direction parallel to the longitudinal axis of the sensor element).

Addressing claims 21-23, Kojima discloses that the spring element has a groove on its side facing away from the press-on body, the groove is situated centrally and has at least one of an oblong and a wedge-shaped design with a rounded end in the direction of the spring section (figure 6A).

Addressing claims 24-25, the spring section of the spring element is a radially inward oriented, tongue-shaped area and the spring element has two spring sections substantially diametrically opposing one another (figure 6A).

Addressing claim 29, Kojima discloses that the at least one press-on body includes at least two press-on bodies (figure 4), and wherein the spring element clamps the at least two press-on bodies (figure 6A), substantially diametrically opposing one another relative to the sensor element, against the sensor element (figure 4).

Addressing claim 30, the spring element of Kojima is in the form of a stamping piece (figures 1 and 6A).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weyl (US 6,322,681) in view of Yoshikawa (US 6,082,175).

Addressing claim 16, Weyl discloses the sensor element is for determining the content of gases in the exhaust (1:5-6) that contains four parts 21-24 (3:5-7).

Weyl fails to disclose the gas sensor is for determining a temperature of the measuring gas.

Yoshikawa discloses an exhaust gas sensor (figure 4); wherein, the ceramic element 2 has four electrodes 7; two electrodes are for electrical connection to the oxygen sensing portion and another two electrodes are for electrical connection to a heating portion (7:1-12).

Weyl and Yoshikawa are analogous arts for they teach components of exhaust gas sensors. At the time of the invention, one with ordinary skill in the art would have been motivated to modify the detecting element of Weyl to include the heating electrodes because such modification allows control of the temperature of the detecting element.

14. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Weyl (US 6,322,681) or Kojima (US 2001/0025522).

Addressing claim 28, Weyl and Kojima fail to disclose the spring element has a flat design in areas adjacent to the groove, and the flat area of the spring element stands perpendicular to an axis defined by two opposing spring sections of the spring element.

At the time of the invention, one with ordinary skill in the art would have found it obvious to modify the spring element of Weyl to contain flatted areas adjacent to the groove because the shape of the spring element with the flatted areas adjacent to the groove is a matter of choice. Furthermore, one with ordinary skill in the art would have arrived at that claimed shape during the design process of the spring element. See MPEP 2144 (IV).

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BACH T. DINH whose telephone number is (571)270-5118. The examiner can normally be reached on Monday-Friday EST 7:00 A.M-3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571)272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit
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